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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,039	07/03/2003	Akihiko Chiba	108421-00075	4266

4372 7590 11/07/2005

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EXAMINER
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ALEXANDER, MICHAEL P

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 11/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/612,039

Applicant(s)

CHIBA ET AL.

Examiner

Michael P. Alexander

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 3-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3 July 2003, 10/30/2003

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

Claims 1-8 are pending.

#### *Election/Restrictions*

Claims 3-8 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11 October 2005.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba et al. (Suzuki Segregation and Dislocation Locking in Supersaturated Co-Ni Based Alloy) in view of Chiba et al. (WO 02/24967 A1), which is an equivalent disclosure of Chiba et al. (US 2004/0025989).

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Regarding claims 1-2, Chiba et al. (Suzuki Segregation) teach (Table 1) a Co-Ni based heat-resistant alloy comprising by weight: 0.5% Mn; 30.4% Ni; 21% Cr; 10.0% Mo; 1.5% Nb; 2.1% Fe; 0.8% Ti; the balance of Co and inevitable impurities. Chiba et al. (Suzuki Segregation) do not specify that the alloy would need to have more than 0.05% of C or more than 0.5% of Si, therefore the alloy inherently meets those limitations. Also, Chiba et al. (Suzuki Segregation) do not specify that the alloy would have a fine twin structure, a parent phase and  $\text{Co}_3\text{Mo}$  or  $\text{Co}_7\text{Mo}_6$  precipitated at boundaries of the fine twin structure and the parent phase. Furthermore, Chiba et al. (Suzuki Segregation) do not specify that the alloy would include at least one kind of 0.007 to 0.10% of REM; 0.001 to 0.010% of B; 0.0007 to 0.010% of Mg and 0.001 to 0.20% of Zr.

With respect to the limitation that the alloy would have a fine twin structure, a parent phase and  $\text{Co}_3\text{Mo}$  or  $\text{Co}_7\text{Mo}_6$  precipitated at boundaries of the fine twin structure and the parent phase in claims 1-2, Chiba et al. (Suzuki Segregation) teach (pages 2112-2113 and Fig. 2b) annealing the alloy at 1323 K (1050 degrees C) to attain chemical homogeneity then aging the alloy at 943 K (670 degrees C) in a condition of applied stress for about 1.1 hours. The Examiner asserts that this treatment would inherently produce the claimed results of having a fine twin structure, a parent phase and  $\text{Co}_3\text{Mo}$  or  $\text{Co}_7\text{Mo}_6$  precipitated at boundaries of the fine twin structure and the parent phase. (The Examiner cites paragraph 0008 of the specification of the instant application as evidence of inherency.)

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With respect to the limitation that the alloy would include at least one kind of 0.007 to 0.10% of REM; 0.001 to 0.010% of B; 0.0007 to 0.010% of Mg and 0.001 to 0.20% of Zr in claims 1-2, Chiba et al. (WO 02/24967 A1) teach (see paragraphs 0033-0034 of US 2004/0025989) in a substantially similar alloy composition, adding 0.007 to 0.10% REM to improve the hot workability, adding 0.001 to 0.10% B to improve hot workability, adding 0.0007 to 0.10% Mg to improve hot workability, and adding 0.001 to 0.20% Zr to improve hot workability. It would have been obvious to one of ordinary skill in the art to modify the method of Chiba et al. (Suzuki Segregation) by adding the claimed amount of REM, B, Mg or Zr in order to improve the hot workability as taught by Chiba et al. (WO 02/24967 A1).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Alexander whose telephone number is 571-272-8558. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mpa



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